"The National Aeronautics and Space Administration"

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On August 19, T. Keith Glennan, for the past 11 years president of the Case Institute of Technology, and I were sworn in as Administrator and Deputy Administrator, respectively, of the National Aeronautics and Space Administration. In the days since then, I can assure you, a very great deal has happened, even though -- as in the case of the proverbial iceberg -- most of what has taken place has not been apparent to the on-looker.

So much has happened, in fact, that Dr. Glennan has already announced he will proclaim, in accordance with the terms of the National Aeronautics and Space Act of 1958, that by the close of business September 30, the NASA will have been organized and will be prepared to discharge the duties and exercise the powers conferred upon it by the Act. On or about that date, it may be expected he will make appropriate announcements respecting the organization of the Space Agency and detail its plans and programs.

Today, rather than seek to anticipate these announcements, I propose to discuss some aspects of the task the President and the Congress have assigned to the NASA. After I have finished, perhaps you will agree

that there may have been some significance, at least symbolically, in the recent move of our headquarters in Washington to the premises occupied for many years by the Cosmos Club.

The Space Act of 1958 plainly states the policy of the United States to be, quote, "activities in space should be devoted to peaceful purposes for the benefit of all mankind." Repeatedly, the President has expressed his earnest wishes in similar vein, and only last week, the Honorable John Foster Dulles, Secretary of State, said in an address to the United Nations General Assembly, "We must make every effort exclusively to the constructive pursuits of mankind." He then called upon the United Nations to, "take immediate steps to prepare for a fruitful program of international cooperation in the peaceful uses of outer space."

As Americans, we can be rightly proud that our country is leading -- has, in fact, led for nearly a year -- in the effort to establish a workable system that will give meaning to the principle that space flight is, or at least should be, inherently international.

In this connection there can be no quarrel with the idea that use of space as may be required for national defense should be the responsibility of the Department of Defense. The Space Act makes such assignment, stipulating as of proper military concern, quote, "activities peculiar to or primarily associated with the development of weapons systems, military operations, or the defense of the United States (including the research and development necessary to make effective provision for the Defense of the United States)."

There will be areas of space activity where there will be a duality of interest. The Select Committee on Astronautics and Space Exploration of the House, in its report of May 20, recognized this fact, and then commented:

"Although weather and communications satellites, manned platforms, and the like have obvious military uses, their primary purpose should be declared civilian. If we do not do this, we automatically commit the world of the future to the same stalemated life in armor which is lived by the world of today. If the very efficiency of current weapons virtually denies the practicable possibility of total war, further strides made in our rocket development would probably intensify this denial. . . The entire purpose of our effort should be to insure that the peaceful uses of these devices prevail. This is the stated philosophy behind our space exploration. It is the philosophy of this country."

Now, I must add that I am aware -- I could say, painfully aware -- of the belief stated in some quarters that unless there is a definite military potential to our work in space technology and space exploration, adequate financial support will not be forthcoming for long from future National Administrations and future Congresses. I am aware of the dangers of predicting what will happen in the future, but on the basis of what we already know, I think that in a relatively short time the economic payoffs of our civilian space effort will have been so large as to make the entire space effort fully self-financing.

Dr. Fred L. Whipple, director of the Smithsonian Astrophysical Observatory, is on record as saying that space technology will permit weather

forecasting to "become a science instead of an art", and that the value of this revolution in meteorology, "will greatly out-weigh the cost of the entire program." Similarly, Dr. Francis W. Reichelderfer, Chief of the Weather Bureau, estimates the value of the more accurate, longer range weather forcasting and storm warnings that we can expect to attain from good use of space technology will be several billion dollars a year.

Similarly, Dr. Wernher von Braun, director of the Development Operations Division of ABMA at Huntsville, Alabama, estimates that, using man-made satellites to transmit commecial messages and TV programs on a global basis will not only be commercially practicable but will, quote, "pay for trips to the moon and other ventures in this business."

In my personal opinion, it is factually incorrect to state that the only proper justification for supporting work in space is military. Plainly, it is a perversion of the facts to suggest that all non-military space activity should be considered mere "fun in space".

Fortunately, determination of our national space policies will be established at the highest level. To insure this, the Congress wrote into the Space Act a National Aeronautics and Space Council and further that the President himself should preside over its meetings. The organization meeting of the Council was held earlier this week.

Sometimes, the best way to obtain a good understanding of the real meaning of a piece of legislation is to refer to such Congressional publications

as a Conference Report. Such a report was written after Senate and House conferees had resolved differences over the language and terms of the Space Act.

Let me quote a few sentences from that Report: ". . . the function of the Council is to advise the President in the performance of the following duties: to survey all significant aeronautical and space activities, including those of the United States Government; to develop a comprehensive program of such activities to be carried out by the United States Government; and to allocate responsibility for major aeronautical and space activities and provide for effective cooperation and resolve differences among departments and agencies of the United States. These duties represent the most important single means for carrying out the purposes of the act. . ."

The composition of the Space Council includes the Secretary of State, Secretary of Defense, Administrator of NASA, and chairman of AEC, plus not more than one additional Government member, and not more than three additional members from private life. The President has therefore designated the Director of the National Science Foundation (Dr. Alan T. Waterman) from government, and, from private life, Jimmie Doolittle, Dr. Detlev W. Bronk of the National Academy of Sciences, and William A. M. Burden, long active in aeronautical matters. I am quite willing to look to such an eminent group as this for recommendations leading to the determination of the scope and direction of our national space programs.

I would, however, add the personal conviction that our planning for space must be with the awareness that sustained and intensive effort will be required for many years to come. Some of the projects not yet fairly underway -- such as development of rocket motors in the million-pound-thrust class -- will take as much as five years to complete. Still others, such as the electric propulsion systems that will be needed when we venture on really long voyages into space, may require ten or more years of effort.

We must plan long-range. We must be confident that long-term projects will receive long-term support. It would be tragic indeed if our national space programs were to be subjected to the uncertainties of a "blow hot, blow cold" kind of financing. This possibility, I believe, is most fortunately remote because of an awareness of how grave the urgency is for us to become and remain leaders in the exploration of space.

Now, I should like to discuss briefly the National Advisory Committee for Aeronautics vis-a-vis the National Aeronautics and Space Administration. For 11 years I was privileged to head the NACA staff. The work of the 8,000 scientists, engineers and other employes, seeking solutions to the problems of flight, represented one of the best returns ever made on the taxpayers' dollars. I am proud, and I believe my feeling is shared by all others of the organization, that the NACA was the choice of all other government agencies to serve as the nucleus of the NASA.

But make no mistake, the NASA is a new agency. It will be different from NACA in many ways. The vital functions of NACA, research into the problems of flight, will be continued and perhaps even intensified, but this activity will be only one part of NASA's programs. NASA will have to administer substantial programs of research, development and procurement, on a contract basis. It will be spending large amounts of money, outside the agency, by contracts with scientific and educational institutions, and with industry. It will be developing and launching into space, the vehicles needed to obtain scientific data and to explore the solar system. It will be preparing for the day, probably within a few years, when man himself ventures on voyages into space.

NASA will have to broaden and extend the excellent, teamwork relationships that NACA enjoyed over the years with the Military Services and with the airplane-missile-space industry. It will be using facilities of the Armed Forces, such as the launching pads at Cape Canaveral in Florida and Vandenberg Air Force Base in California. It will be expanding its own facilities at Wallops Island, on the Virginia Coast, to permit launching satellites up to, say, 100-pounds size. It will be operating satellite-tracking stations around the world. It will be collecting great masses of scientific data, and reducing them to useful form.

In summary, the scope of NASA's mission is in many, many ways different from that of NACA during its 43 years of fruitful life.

This week Dr. Glennan addressed a message to all NACA employes. Referring to the September 30 takeover date, he conceded that one way to describe what will happen would be to quote from the legalistic language of the Space Act: "The NACA shall cease to exist. . . (and) all functions, powers, duties and obligations and all real and personal property, personnel (other than members of the Committee), funds, and records of that organization" shall be transferred to NASA.

Then he continued, "My preference is to state it in a quite different way. I like to say, and I believe I am being very realistic and very accurate when I do, that what will happen September 30 is a sign of metamorphosis... an indication of the changes that will occur as we grow to where we can do the bigger job that is ahead."

Finally, because I am sure many of you here today are most eager to learn more about the Administrator of NASA, let me tell you a little about Keith Glennan. I have known him, not intimately, but from fairly frequent contacts, for the past 8 or 10 years. Our people at the Lewis Flight Propulsion Laboratory have known him for at least that long; he became president at Case in 1947. They have watched him direct the building of that institution until today it ranks among the best of our country's scientific schools. In Cleveland Keith Glennan has earned the respect and admiration of the community.

For the past several weeks he and I have worked together most closely. I can say he is not afraid of work, and that he expects his associates to be equally industrious. During the Senate confirmation hearings he was asked what he thought was called for in the job of NASA Administrator. I quote his answer, because I think it is typical of the man: "A great deal of energy, a lot of application and understanding... Application and understanding, I think, of the manner in which some of these things get done. It isn't just a matter of the money that is involved, but it is a matter of the people involved and how best one can motivate the people to highest performance."

Many times since he reported on the job, he has said he prefers to get things done first and to talk about them second.

What does Dr. Glennan think about private industry and the role it must play in our national space program? I haven't talked with him about this, but I have read a major address of his, titled, "Industry's next step in atomic energy", made late in 1952, just after he had completed two years as a member of the Atomic Energy Commission.

"Among the things I brought with me," he said of his going to the AEC -- in 1950, "was a strong belief in the essential rightness of the American system of free competitive enterprise, and a strong conviction that it could be made to work in the development of atomic energy just as effectively as it has worked in all the other industries which have helped to make the United States the great free nation it is today."

Later in his speech, he said, "I believe you will see why the government cannot be expected to carry the ball alone on this matter of industrial participation. The Commission's main job, as described in the atomic energy law and as dictated by the times, is to guarantee the common defense and security. It is a big job, and a time-consuming one, and if anyone thinks that the Commission can take time off from its defense work to look around for something to hand to industry on a solid plutonium platter, he is not being very realistic. Let there be no mistake about it: Industry will get only those things that it can prove it really wants, it can really handle, and it really should have in the public interest."

As I said, I haven't talked to him about his views about the part of private industry in the space programs, but if I were a wagering man, I'd bet a penny or two that if you substituted space for atomic energy in what I've just quoted, you'd be very close to knowing what Keith Glennan, NASA Administrator, thinks on the subject.

For my own part, I am convinced that what needs to be done to bring us to a position of leadership in space research and exploration will require the very best efforts of all of us.

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